REMARKS

Applicants respectfully request reconsideration of the application identified above. Claims 1-2, 4, 7-8, 11-13, 15-27, 29-31 and 67 are pending. Claims 3, 5-6, 9-10, 14 and 28 have been cancelled with this Response in anticipation of the new 5/25 rule. Claims 1-2, 4, 7, and 19 have been amended. Claim 67 is new. Applicants respectfully traverse the rejections as conceivably applied to the pending claims.

I.   Summary of the Invention

The present invention relates to a control system for use in small buildings. The control system includes a communications network, a simple control interface and application controllers that control various small building systems, such as an HVAC, lighting, and security system. The control interface has a database populated with preprogrammed application controller profiles. Each of the profiles is associated with a particular application controller type. Each of the profiles includes preprogrammed application controller type specific commands. When an application controller is added to the communications network, the application controller informs the local control interface of its controller type. The local controller interface identifies the appropriate profile in the database to use with that application controller type. The control interface and application controller communicate using the preprogrammed application controller specific commands in the identified profile to control the application controllers. The commands typically include the value of a control or input variable. Some application controllers have default values. This eliminates the need for complex programming operations, which typically require the involvement of network specialists.

II.   Non-Art Rejections

        A.   Section 112, First Paragraph, Rejection of Specification

        The specification was rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. Specifically, it is asserted that the Specification does not support the following claim limitations: (1) a "profile containing a plurality of pre-defined application controller type specific commands," and (2) a "self configuring means for configuring each of said plurality of application controller using at least one of said plurality of pre-defined application controller type specific commands of identified profiles." Office Action at Page 4. It is not clear to Applicants which portions of the cited claim language are allegedly unsupported. Accordingly, Applicants have provided support for each portion of the cited pending claim language.

        Applicants note that in the previous Response the amended claim term "pre-defined" was intended to mean that the profiles were "preprogrammed," either on the control interface or on an application controller, as opposed to being developed during operation. A profile which resides on an application controller and is transmitted to the control interface is considered preprogrammed because, though it was transmitted during operation, it was not programmed during operation. In view of the objection, Applicants have amended the term "pre-defined" to "preprogrammed" for clarity.

        Addressing the specific rejections, the Specification teaches that 1) the control unit "stores profiles for the various controller types recognized by the system" (Specification Pg. 39, Lines 8-10); 2) the "local control interface is preprogrammed with profiles for the various

application controllers supported by the system" (Specification Pg. 5, Lines 22-23); and 3) each

profile includes commands, such as input variables, output variables and input configuration

variables. Specifically, the Specification states that:

> In a preferred embodiment, each profile includes a record for each
> variable supported by the application controller. The record
> includes a field for variable type, variable name, display name and
> variable number. The variables are preferably classified in one of
> three different types--namely, input variables, output variables and
> input configuration variables. Input variables represent variables
> that can be sent to the application controller by the local control
> interface. Output variables represent variables that can sent by the
> application controller to the local control interface. And finally,
> input configuration variables are control variables that relate to
> operation of the application controller, but that are not routinely
> varied through local control interface 12 commands or otherwise.
> Each application controller is preferably pre-loaded with default
> values for all control variables. This facilitates automated
> configuration, by eliminating the need to provide these control
> variables with initial values. Specification Pg. 39 Ln. 20 – Pg. 40
> Ln. 7.

The amended claims, along with the specification support cited above overcome

the rejection.

B.   Section 112, First Paragraph, Rejection of Claims

The claims were rejected under 35 U.S.C. 112, first paragraph, for the same

reasons set forth in the specification rejection. The rejection is overcome for the same reasons as

the rejection of the Specification discussed above.

C.   Section 112, Second Paragraph, Rejection of Claims

The claims were rejected under 35 U.S.C. 112, second paragraph, as being

indefinite. Specifically, it is asserted that the Applicants did not provide an intended meaning of

the term "explicit address." Applicants believe a person of ordinary skill in the art would understand the term "explicit address" within the context of the example provided in the specification of "direct 48-bit Neuron ID addressing." Specification Pg. 35, Lns. 4-5. Applicants submit that the meaning of the term "explicit address" is a network address that does not need to be translated, for example by a look-up table, in order to be routed. Applicants respectfully request that the objection under 112, second paragraph be withdrawn.

III.   Art Rejections

        Applicants respectfully submit that the subject matter of the amended claims is patentable over the art of record.

        A.   Obviousness Rejection based on Pascucci and Hite

        As previously presented, claims 19-28 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,550,980 to Pascucci et al., in view of U.S. Patent No. 7,213,061 to Hite et al. Applicants respectfully traverse this rejection as conceivably applied to the pending claims.

        Pasuccci was described at length in the previous Response. Generally, Pascucci is directed to a facilities management system that uses software divided into a "features" level, a software level and a hardware level. The feature level treats all inputs and outputs to and from the software level the same way. The software level communicates with the hardware level, which masks the differences between individual hardware units. This hierarchy eliminates the need to rewrite entire software packages when new operational units are added or existing units

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are changed. When units are added or changed the hardware database must be updated. Pascucci Col. 18, Lines 38-55.

Hite generally discloses a system for communicating with devices in a control area network ("CAN") over the Internet. Hite uses a predefined protocol to communicate between devices on the Internet to an internet appliance server located on the CAN. The messages are decoded by the internet appliance server and sent to the appropriate device on the CAN.

Applicants submit that the subject matter of independent claims 19 is not obvious under 35 U.S.C. 103. "A patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art." *KSR Int'l co. v. Teleflex, Inc.*, 127 S.Ct. 1727, 1741 (2007). There must be "an apparent reason to combine the known elements in the fashion claimed by the patent at issue." *KSR* at 1741. "Rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *Id.* (quoting *In re Kahn,* 441 F.3d 977, 988 (C.A. Fed. 2006)).

The present Office Action recites the known, independent advantages of each reference, stating that "it would have been obvious...to modify Pascussi (sic) in view of Hite in order to use the pre-defined, i.e., preprogrammed, commands in order to control the application controller." Office Action at Page 9. However, neither reference provides any reason for why a person of skill in the art would actually use the pre-defined, i.e. preprogrammed, commands of Hite with the Pascucci system. The mere conclusory statement that "[o]ne of ordinary skilled

(sic) in the art would have been motivated because it would have enabled the appliance and/or device through the commands" does not contain any articulated reasoning with any rational underpinning to support the legal conclusion of obviousness. Office Action at Page 9. In fact, neither reference even recognizes the problem solved by the present invention. The fact that (1) Hite teaches generic preprogrammed commands and (2) Pascucci teaches a building automation system is insufficient for a prima facie rejection of obviousness with regard to the present invention.

Applicants additionally submit that Hite and Pascucci are not properly combinable, because the combination would destroy the intended function of Pascucci. One of the stated objects of Pascucci is to "provide a method of accessing data in a distributed system without requiring a central look up node." Col. 10 Lines 62-64. Hite teaches that commands entered at a web browser are sent to a web server, which relays the commands to a master controller. The master controller then instructs appropriate appliances and/or systems in the control network to act according to the received command. Hite uses a protocol translator, which is essentially a central look up node. Fig. 6 elements 164, 166. The use of a central look up node in Hite destroys the intended function of Pascucci. Therefore, these references are not combinable.

The combination of Pascucci and Hite teaches away from the claimed invention. Under the proper legal standard, a reference will teach away when it suggests that the developments flowing from its disclosures are unlikely to produce the objective of the applicant's invention. In re Gurley, 27 F.3d 551, 553 (Fed. Cir. 1994). Pascucci discourages the use of

"operational unit specific software to accommodate inputs and outputs" Col. 1 lines 50-51. Hite is silent about whether the master controller uses application controller specific commands. It is asserted that Hite "expressly discloses the control system for controlling a building environment by using the pre-defined application specific commands." Office Action at page 9. Applicants respectfully disagree. The portions cited merely detail that generic commands may be used to communicate over the Internet to a Control Area Network and that the same commands may be issued to devices on the Control Area Network. There is no discussion of the format of these commands. As such, Applicants assume the generic, non-application specific commands in Table A are used for that communication. Contrast this with independent claim 19 which recites "preprogrammed application controller specific commands for adjusting said plurality of control variables of said plurality of application controllers." (emphasis added). Applicants submit that developments flowing from Pascucci and Hite are unlikely to produce the claimed application controller specific commands.

       The combination of Hite and Pascucci also teaches away from explicit addressing. Pascucci discloses that "while [explicit addressing] provides quick access to data and does not require a central node to translate addresses, there is no adaptability to changes in the host node data base." Col. 2 Lines 45-48. Hite teaches using a master controller to translate addresses. Contrast this with independent claim 19 which recites "explicit messages by way of an explicit address." Applicants submit that developments flowing from Pascucci and Hite are unlikely to produce the claimed explicit messages by way of an explicit address.

Additionally, the N1 local area network in Pascucci is identified as the communication network, however, the N1 local area network is not "located between said plurality of application controllers and said control interface" as claimed in amended independent claim 19. In Pascucci, the N1 local area network is located between network control units and the operator work station 14-7, not between the application controllers 14-15, 14-17, 14-19 and the control interface 14-1.

Finally, Applicants submit that Hite and Pascucci, either alone or in combination, do not disclose every element of independent claim 19. In particular, neither reference discloses preprogrammed application controller specific commands. Hite discloses transmitting *generic* preprogrammed commands to configure devices over the Internet on a Control Area Network (CAN). Hite Col. 12 Lines 31-55 and Table A. The Hite preprogrammed commands do not depend on the type of application controller to which they are being sent. This adds unnecessary complexity. Put another way, the commands in Table A of Hite are not application controller specific. Applicants agree with the Examiner that Pascucci does not disclose pre-defined, i.e. preprogrammed, application controller specific commands. Office Action at Page 9. Accordingly, none of the references disclose preprogrammed application specific commands as claimed.

Accordingly, for at least the reasons noted above, Applicants respectfully submit that the rejection of claims 19-28 should be withdrawn.

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B.   Anticipation Rejection based on Pascucci, Hite and Pouchak

As previously presented, claims 1-2, 4, 11-13, 15-18 and 29 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,550,980 to Pascucci et al., in view of U.S. Patent No. 7,213061 B1 to Hite et al., and further in view of Pub. No. 2003/0005086 to Pouchak et al. Applicants respectfully traverse this rejection as conceivably applied to the pending claims.

Applicants submit that the subject matter of independent claim 1 is not obvious under 35 U.S.C. 103. The present Office Action recites the known, independent advantages of each reference, stating that "it would have been obvious...to modify Pascussi (sic) in view of Hite in order to use the pre-defined commands in order to control and/or configure the application controller." Office Action at Page 14. However, as noted above, none of the references provides any reason for why a person of skill in the art would actually use the pre-defined commands of Hite with the Pascucci system. The mere conclusory statement that "[o]ne of ordinary skilled (sic) in the art would have been motivated because it would have enabled the appliances and/or devices to operate and or act according to command" does not contain any articulated reasoning with any rational underpinning to support the legal conclusion of obviousness. Office Action at Page 14. In fact, neither reference even recognizes the problem solved by the present invention. The fact that (1) Hite teaches generic preprogrammed commands and (2) Pascucci teaches a building automation system is insufficient for a prima facie rejection of obviousness with regard to the present invention.

Applicants additionally submit that Hite and Pascucci are not properly combinable, for the same reasons discussed above.

The combination of Pascucci and Hite teaches away from the claimed invention. As discussed above, Pascucci discourages application specific software and Hite is silent about the topic. Independent claim 1 recites "preprogrammed <u>application controller type specific commands</u>." (emphasis added). Applicants submit that developments flowing from Pascucci and Hite are unlikely to produce the claimed application controller type specific commands.

Again, the N1 local area network in Pascucci was identified as the communication network, however, the N1 local area network is not "located between said plurality of application controllers and said control interface" as claimed in amended independent claim 1.

Further, Applicants submit that Hite, Pascucci and Pouchak, either alone or in combination, do not disclose every element of independent claim 1. As noted above, Pascucci and Hite do not disclose preprogrammed application controller specific commands and Pouchak fails to fill the gap.

Finally, none of the references, either alone or in combination, disclose "each of said plurality of profiles associated with said controller type of one of said plurality of application controllers" as claimed in independent claim 1. The citation on page 13 of the Office Action to Col. 33 Line 55 to Col. 34 Line 25 of the Pascucci specification relates to the software object manager and the hardware object manager. There is absolutely no disclosure related to profiles, let alone profiles that are associated with controller types of application controllers. The software object manager "is a database manager which handles all requests for a particular type

of software object." Col. 33 Line 55- Col. 34 Line 26. The hardware object manager is "a

database manager which handles all requests for a particular type of hardware device on the local

low speed bus 17-13 connecting the network controller to the slave hardware devices 17-15, 17-

17, 17-19." Col. 33 Line 55- Col. 34 Line 26. A database manager is not a profile. The citation

on page 13 of the Office Action to Col. 41 Line 49 through Col. 42 Line 67 of the Pascucci

specification concerns the naming scheme of objects in the system. "The system/object name is

a two level naming scheme where the system name is the same as the group name in the above

description and the object name is the name of the particular data object or element." Col. 41

Line 29 – Col. 42 Line 67. There is some discussion of a database manager "which manages all

objects of the same type," however, this appears to be merely a tool for keeping track of the

location of devices in the system, not a profile which is associated with a particular application

controller type. The "entry [in the database] contains the name of the AHU1/FAN object and its

binding information; object type (binary output), host node address (NC2), and data base

location in the binary output data base (record 3)." None of the references to the figures

illustrate profiles associated with controller types of application controllers. In fact, the rejection

identifies storage means 20-11, which is not even located within a network control unit.

Pascucci is a lengthy and unwieldy reference, but it is clear that it does not teach disclose or

suggest profiles as claimed in independent claim 1.

        Accordingly, for at least the reasons noted above, Applicants respectfully submit

that the rejection of claims 1-2, 4, 11-13, 15-18 and 29 has been overcome and should be

withdrawn.

C.   <u>Dependent Claims</u>

The dependent claims recite additional subject matter not present in the corresponding independent claims, these dependent claims are even more clearly allowable over the art of record than the corresponding independent claims. Claim 2 discloses application controllers that control operation of corresponding automated device in accordance with at least one variable. Claim 20 discloses a plurality of profiles with different controller types. Claim 4 discloses transmitting explicit messages to said application controllers as opposed to Pascucci which appears to use peer to peer or implicit messages. Claim 24 includes a means for monitoring including a means for periodically transmitting a ping to each application controller. Claim 25 discloses a means for receiving a ping from the control interface and a means for transmitting a response. Claims 11 and 22 disclose that the application controllers includes a HVAC., lighting or access control application. Claim 12 discloses a control interface with a database of application control software images. Claim 13 discloses downloading the software images onto the control interface from an external source. Claim 15 discloses means for downloading a control interface control software image. Claim 16 discloses a means for downloading the control software image from an external source. Claim 17 discloses a control interface programmed to receive and install a downloaded control software image. Claim 18 discloses a control interface and application controllers programmed with a generic programming language. Claim 21 discloses a preprogrammed database with a plurality of profiles that are uniquely associated with one of the controller types. Claim 27 discloses the response transmitted by an application controller includes data relevant to another application

controller. Claim 29 discloses a self-configuration means. Claim 31 discloses a means for calculating a person count and a means for defining an occupancy status within the group based on the person count.

IV.   Conclusion

It is respectfully submitted that the subject matter of the amended claims is not anticipated by the art of record and that any attempt to reconstruct the subject matter of the amended claims through a combination of prior art references can only be made in hindsight with the present invention as a blueprint. However, even such an improper combination does not teach or suggest the present invention for the reasons noted above. It is therefore respectfully submitted that the rejection under 35 U.S.C. § 103 are unfounded or overcome, and therefore should be withdrawn.

In view of the above amendments and remarks, it is respectfully submitted that the present application is in condition for allowance. A notice to that effect is earnestly and respectfully requested.

Respectfully submitted,

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